

Item Number	Article SO GL	Question from VGB 07/03/2018	ENTSO-E answer 14/12/2018	VGB comment 21/03/2019	Common Conclusion ENTSO-E/VGB	ACER	Improved answer with ACER comment
1	2	Art. 2 : A DSO is not a SGU according to recital 3. Correct???			Yes	Please mind Article 2(1)(c) and (d) where the transmission-connected CDSOs are referred to as SGUs	Yes, DSOs are not SGUs. Please note that closed distribution systems may be SGUs according to Art 2.1.c-d
2	2.1.f	Art. 2.1.f defines a HVDC installation (HVDC) as a significant grid user (SGU). But compared to a generator or a consumer, a HVDC installation is not subjected to several requirements. What is the intention of this Guideline?	Requirements for SGUs are applicable for HVDC systems	<p>Art. 15.3 does not impose statistics for a HVDC as it is imposed for PGMs, grid elements and demand. Why? Art. 22.1.c imposes to manage the reactive power by all means but not by a HVDC. Why?</p> <p>Art. 22.1.g imposes to adjust only the active power through a HVDC, not the reactive power. Why?</p> <p>Art. 84.2 describes the outage coordination of PGMs, demand and grid elements, but not for HVDC. Why? Art. 84.2.c does not mention a HVDC as a potential relevant SGU for outage coordination. Why?</p> <p>Art. 85.2 does not include a HVDC as an input for the ENTSO-E operational planning data environment. Why? Art. 87 describing grid elements is not covering HVDC according the ENTSO-E answer above.</p> <p>Art. 109 describing reactive power ancillary services cannot be applied on HVDC. Why? Art. 111 and Art. 113 describe the role of scheduling agents for generation and demand.</p> <p>Does this include HVDC installations?</p> <p>Do the notions "generation" or "demand" apply at HVDC? If yes, specify it.</p> <p>CAN A MEMBER STATE IMPOSE ADDITIONAL, MORE STRINGENT REQUIREMENTS? (This is not allowed according to EC statements at the GC ESC of 9/12/2016 for the NC RfG).</p>	<ul style="list-style-type: none"> • HVDC link is a hybrid installation that can also fulfil the function of a grid element, but it is defined as a Significant Grid User (SGU) in this SO guideline. • The comments formulated by VGB are valid but not severe enough to require amendment(s) to SOGL. But if the SOGL has to be updated due to other reasons, the submitted items have to be reviewed as proposed below. • Art. 15.3 to add HVDC installations in the list for statistics. • Art. 22.1.g specifies only requirements for active power, so the comment is not to the point. • Art. 22.1.c to include the use of the management of reactive power by a HVDC installation, provided technical capability exists (taking into account definition 21 specifying that HVDC installation can supply reactive power). • Art. 84.2 to add HVDC installations in the list for outage coordination. • Art. 85.2 to include a HVDC installation as an input for the ENTSO-E operational planning data environment. This inclusion is already specified in the ENTSO-E methodology. • The comment on Art. 87 is not to the point given the statement that a HVDC installation is a SGU. • Art. 109 to add the potential reactive power ancillary service by a HVDC installation. • The impact on Art. 111 and Art. 113 was not discussed. The thinking now is that no modification is needed. 		
3	3	Art. 3 : "load-frequency-control" is not defined (see Def. 12; 18; 140)			The notion "load-frequency control" is given in the EBGL.		
4	3.71	Art. 3.71 : 'availability status' means the capability of a power generating module, grid element or demand facility to provide a service for a given time period, regardless of whether or not it is in operation. More explanation needed for the terms "available" and "in operation".			<p>More details regarding the meaning of availability can be found in the following standards:</p> <ul style="list-style-type: none"> - IEEE 762 IEEE Standard Definitions for Use in Reporting Electric Generating Unit ... - IEC 61400-26 Availability for wind power stations - ISO 3977-9 Part 9: Reliability, availability, maintainability and safety 		
5	7	Art. 7 : ACER cannot propose amendments. Why??			According to Art. 7 ACER cannot propose amendments as NRAs can only do this: this was decided so by the EC/Member States.		
6	8.1	Art. 8.1 : Is a TSO legally obliged to inform stakeholders by other means than the internet? What is the legal status of an "hidden" internet publication?			Art. 8.1 allows a TSO to use the internet for providing information to stakeholders. This is a generally accepted practice for all kinds of information flows to stakeholders.	Concerning the "hidden publication on the internet" a complaint can be lodged with the NRA in accordance with Article 6(10)	ACER comment complements the provided answer.
7	18.4.b	Art.18.4.b : Why is the status of black-out applied after three minutes of absence of voltage in the control area?	The 2nd attempt for auto-reclosure of circuit breakers is not later than 3 minutes	VGB cannot accept this answer because the status of a COMPLETE control area does not depend on a successful auto-reclosure. Please provide a more justified explanation.	No clear explanation has been given. According ENTSO-E, it has to be accepted as defined as such and must be applied not only for TSO but also for the synchronous system.		
8	21.1.a and 22.1.i	Art. 21.1.a and 22.1.i allow TSOs to open an interconnector in case of emergency. Shall generators and consumers be compensated?	Compensation schemes are not in the scope of SO GL, it is defined on national level.	Answers accepted by VGB			
9	22.1.c.iv	Art. 22.1.c.iv allows TSO to block automatic voltage control. Who will compensate the damage when IEC standards are not respected?	Compensation schemes are not in the scope of SO GL, it is defined on national level.	Answers accepted by VGB			
10	22.1.j	Art. 22.1.j allows to activate a manually controlled load shedding. Is this done according to an existing agreement with the consumer?	This is not regulated with SO GL, subject to national decision.	Answers accepted by VGB			

11	23.4	Art. 23.4 imposes remedial actions when the system is NOT in normal or alert state. This is a subject for the E&R code instead the GL SO?	The coordination of remedial actions is covered by SO GL. In NC ER are defined the requirements for coordinating the measures of system defence and restoration plans.	This answer is not coherent with E&R code Art.1.a : the subject matter of this code is "the management by TSOs of the emergency, blackout and restoration states." So if a transmission system is not in the normal or alert state, it becomes subjected to the E&R code. If the answer is correct, Art. 1 of the E&R code has to be modified. Another solution could be : the words " if its transmission system is not in normal or alert state" have to be erased in Art. 23.4 of the GLSO.	This provision has to be read together with Art.24.2 describing the remedial actions in the normal or alert state. It was suggested to add a reference to the Emergency and Restoration code in Art. 23.4.		
12	24.1.e	Art. 24.1.e imposes the TSOs to facilitate cross-border operations. How to interpret this obligation in case of emergency (Art. 21.1.a and 22.1.i)?	Article 24.1 lists the means, tools and facilities for which each TSO shall ensure the availability, reliability and redundancy, this includes the tools and communication means necessary for TSOs to facilitate cross-border market operations. This is not the same as the obligation to facilitate cross-border operations. In case of emergency, the rules for suspension and restoration of market activities defined on national level in accordance with NC ER apply.	VGB cannot accept this answer because Art. 24 includes also the "means". The word "means" includes the interconnectors themselves. Idem for the word "tools" in Art.24.1.e. No definition exist for the words "means" and "tools".	The notion "tools" does include only installations to manage or exchange data electronically. It does not include interconnectors (HVDC or AC). It was suggested to specify this more clearly, e.g. in this article itself.		
13	25.2	Art. 25.2 requires to take into account the frequency limits of SGU in normal and alert situations. But nothing is said about submission of those limits (see Art. 28.3). What about the rights of DSOs (≠ SGU)?	In general, application of SOGL requirements is done wrt (= with respect to???) capabilities of existing SGUs. If necessary, a TSO can ask a SGU to clarify them.	The answer applies only for SGUs and according to Art. 2.1, a DSO is NOT a SGU. VGB proposes to modify Art. 2.1 by adding DSOs in the list of SGU. See also the list of "minor items" about Art. 2.	This provision applies also to DSOs for the SGUs connected at distribution grids. It does not apply in general to the DSOs themselves because DSOs are not involved in the cross-border trade. It was proposed to add a specification that also DSOs have to respect the voltage limits for SGUs. Limits for RoCoF of existing PGMs are not subjected to the SOGL but to the E&R code (system defence plan). PS: This article includes also the remedial actions to grant the dynamic stability as specified in Art. 39. Also DSO connected SGUs are involved in this issue.		
14	27.5	Art. 27.5 (voltage ranges for DSO < 110 kV) : what with DSO at 110 kV or more?			Art. 27.5 describes actions related to DSO connected at a voltage below 110 kV. Voltage ranges for DSO connected at 110 kV or higher are described in Annex 2 of SO GL.		
15	28.1	Art. 28.1 imposes to submit the applicable voltage ranges of existing SGU before 14/12/2017. This is supposed at 50 Hz only. Correct?	It's up to the SGU to provide these capabilities taking into account whether they change in different frequency ranges.	Answers accepted by VGB			
16	31.3	Art. 31.3 imposes max. and min. limits for short-circuit currents. A deviation of the limits is only allowed during switching operations. The min. value has to be respected at all times. Correct?	Art 31(3) requests TSO to prevent from deviations on min/max limits. This is applicable in general.	Answers accepted by VGB			
17	33	Art. 33 : To add at the contingency analysis : successive voltage dips due to lightning can provoke the tripping of PGMs (Cfr. black-out in Australia)	Plenty of other technical dynamic scenarios could be described (eg: effect of ULTC). The Article shall remain general.	Answers accepted by VGB			
18	35	Art. 35 allows a TSO to consider the N-1 criterion as sufficient. This is not allowed for SEVESO plants and nuclear PGMs. Contradiction between Art.40.3 (generation/ consumption) and Art. 40.4 (injections / withdrawals)??			Art. 35 allows a TSO to consider the N-1 criterion as sufficient. In the scope of definition of their contingency list, TSOs have to respect more stringent criterions as contractually agreed for particular connections such as SEVESO sites or auxiliary services of nuclear PGMs.		
19	37	Art. 37 describes a "special protection scheme". What is such scheme?	According to the definition in an early version of SO GL 'special protection scheme' means the set of coordinated and automatic measures designed to provide for fast reaction to disturbances and to avoid the propagation of disturbances in the transmission system. (the definition was removed during comitology).	Answers accepted by VGB			
20	45.1.k	Art. 45.1.k imposes to determine the cost of remedial actions. How? How do we have to interpret "market based mechanisms"?	Costs of remedial actions have to be provided ex-ante according to Art 78(1). Elements needed for receiving these costs have to be defined at national level.	Answers accepted by VGB			

21	52.3	Art. 52.3 : The min. and max. power to be curtailed is NOT a real-time data.			The min. and max. power to be curtailed can be considered as a real-time data supposing a manual input of the data.			
22	54.4	Art. 54.4 allows tests at any time referring to Art.41.2 of RfG allowing only tests according to a “repeat plan”. We suppose that RfG prevails for ALL PGMs.	Response under development.		VGB insists that ENTSO-E will provide an answer on a short notice. This is an important issue. VGB will only accept such tests for generators according to a repeat plan as imposed by the RfG code.			
23	95	Art. 95 (outage planning) : the allocation of costs detected at incompatibilities is unclear. Who shall bear those costs?	In application of national rules.		Answers accepted by VGB			
24	98.4.a	Art. 98.4.a allows a TSO to force an “unavailable status” into an “available status”. This is not always possible. E.g : refuelling of a nuclear PGM.	The provision concerns year-ahead availability plans, alternative availability plans resolving the outage incompatibility in this timeframe are generally feasible.		The answer does not apply for the example. If the refuelling of a nuclear PGM has to be postponed due to grid incompatibility, this would mean that such PGM has to go into a “forced outage” due to a lack of fuel. VGB expects that all TSOs prefer to avoid “forced outages” if such outage is predictable. VGB expects that the related costs will be defined at national level. Is this interpretation correct?	This provision has to take into account the reasons for the request from the SGU to maintain the original planned outage such as legal obligations and technical obligations regarding security / safety of persons and installations, refuelling of nuclear reactors, replacement of components at end-of-life cycle, etc. Detailed rules have to be approved by each NRA, it is not the intention to harmonise this issue at EU level.		
25	102.1	Art.102.1 imposes a procedure for forced outages. Why? This is an element of the contingency analysis made by the TSO. What is the intention of this article?	This procedure was requested by stakeholders to address very specific situations, including cases where several units/elements are subject to stop urgently.		Answers accepted by VGB			
26	102.3	Art. 102.3 : “When undertaking the procedure, the TSO shall respect, to the extent possible, the technical limits of the relevant assets.” Meaning???	Eg taking into account a potential obligation for nuclear PGM to stop.		Answers accepted by VGB			
27	109.3	Art.109.3 : At un-sufficient reactive power, the regulator is not informed. Why? To compare to Art. 105.3 for active power : the regulator is informed.				At un-sufficient reactive power, the NRA is not informed because this is a local phenomenon without cross-border consequences and consequently out of scope of this guideline.	The answer is not logical. If there is no XB consequences why inform neighbouring TSOs? I suggest to rephrase using a milder statement.	Art.109.3 cannot be compared to Art 105.3: in the case of reactive power, Art.109.3 prescribes to the TSO to act operationally (because this is fully in its hands) against the risk of voltage issue, by preparing and activating remedial actions. In the case of lack of adequacy (105.3), the TSO can only identify the risk and warn the authorities because most of potential actions are not in the TSO hands, and considering the potential high impact on the country activity. In general, national measures are defined in some rules like Risk Preparedness Plans and may be activated by the competent authority. The need to add a requirement for informing NRA/competent authority may be reassessed at the occasion of a revision of SO GL.
28	110.4	Art. 110.4 : No definition of a shipping agent. Unknown role.				A definition of a shipping agent is given in the CACM code.		
29	114	Art.114 : the information in the ENTSOE operational planning data environment is of paramount commercial value for traders. How will ENTSOE prevent leakages?				The information in the ENTSO-E operational planning data environment will not be submitted to third parties and will remain strictly limited to TSOs and RSCs.		
30	119	Art.119 : LFC block, LFC area, outage coordination area and monitoring area are new terms. Could those be explained and visualised in a list or a map?				A map with the definition of LFC blocks and LFC areas is integrated in the document “Supporting Document for the Network Code on Load-Frequency Control and Reserves” at page 42 (see above).		

31	119.1.c	Art. 119.1.c : Ramping restrictions for PGMs : more information and values are needed to analyse the impact of this article.	This is in the scope of synchronous area operational agreements, then (potentially) control block agreement: they are both submitted for consultation, where the impact would be more precisely addressed.	VGB will give its position based on the content of the synchronous area operational agreement.	This provision has been written to mitigate the impact of the Deterministic Frequency Deviations (DFD) resulting from commercial flows. It was not the intention to impose this requirement to restore a portfolio after a forced outage. The potentially imposed ramping limits have to respect the technical capabilities of the PGMs concerned. In addition, an EURELECTRIC-ENTSO-E report lists the DFD root causes and proposals for potential solutions (https://docstore.entsoe.eu/news-events/announcements/announcements-archive/Pages/News/the-report-on-deterministic-frequency-deviations-root-causes-and-proposals-for-potential-solutions.aspx). The report identifying causes of the frequency drop that occurred in the CE synchronous area on 10th January 2019 is also available (https://docstore.entsoe.eu/Documents/News/2019/190522_SOC_TOP_11.6_Task_Force_Significant_Frequency_Deviations_External_Report.pdf).		
32	127.8.b	Art.127.8.b requires a public consultation for a modification of the frequency quality parameters. What is the role of the ESC?			Art.127.8.b requires a public consultation for a modification of the frequency quality parameters. Also the SO ESC shall be informed.		
33	128.1	Art.128.1 : the terms Level 1 FRCE range and Level 2 FRCE range are not clear.			The terms Level 1 FRCE range and Level 2 FRCE range are defined in SOGL Annex IV and explained in detail in the document "Supporting Document for the Network Code on Load-Frequency Control and Reserves" (see above).		
34	133 and 134.4	Art. 133 : A TSO has to collect data to define the frequency quality parameters. Who will have access to those parameters.? Will they be published? (Idem 134.4)			Each TSO has to collect data to define the frequency quality parameters. A report shall be published in September – October 2019.		
35	135	Art. 135 allows a TSO to request data from generators and consumers related to imbalances. What is the purpose of this? Imbalance is a notion at portfolio level.			Art. 135 allows a TSO to request data from generators and consumers related to imbalances. The request of such data is intended to detect imbalances upfront. Also aggregators can have a role to play by modifying the consumption.		
36	137.4	Art. 137.4 (ramping rates for generators and demand) : What is the added value if the modifications are within a LFC block / a single synchronous area? This provision can provoke additional unbalances if too restricting.			Art. 137.4 regarding ramping rates for generators and demand will be used where decided so according to Art 137 to limit the commercial flows between two synchronous areas as stated in the first paragraph of this article.	From the supporting document (4.6.2), I understand these two ramping restrictions (ramping rates of generation and HVDC) can be independent and independently set. See also your answer to Art. 119.1c	As indicated in Article 119.1.c, two kinds of ramping restrictions can be introduced by TSOs to limit the impact of commercial flows changes between control areas -see also answer to question on Art 119.1.c- on the ACE of its control area. Both kinds contribute to limit the speed of change of the equilibrium within the control area: either ramping rates on injections/withdrawals from another synchronous area via HVDC interconnectors, or ramping rates on local generation/demand.
37	138	Art. 138 describes measures in case the frequency quality is not respected. The proposed mitigation is with the existing quality parameters. Correct?			Art. 138 describes measures in case the frequency quality is not respected. The proposed measures will be based on the existing quality parameters.		
38	152.8-13 & 16	Art.152.8-13 & 16 allows a TSO to modify the active power of generators and consumers to grant sufficient reserves (FRR, RR, FRCE). Is this done according market rules or agreements with SGU?	It shall be done in compliance with national rules/agreements	VGB will give its position based on the content of some national rules.	The PGMs have to be compensated for such modifications according to national rules.		
39	154.3	Art. 154.3 specifies that a TSO can impose additional requirements for FCR. Are other criteria than geographical ones possible?			Art. 154.3 specifies that a TSO can impose additional requirements for FCR. Only geographical requirements are currently considered.		
40	156.9	Art.156.9 imposes that FCR is continuously available. This does not apply when a PGM does already supply FCR in normal state or alert state. Correct?	It means that FCR providing units/groups with LER shall fulfil this requirement when being contracted to provide FCR. Additional explanations are available in the scope of explanatory documents provided together with CBA for LER units providing FCR.	VGB will give its position based on the content of those documents when available.	This is a general requirement needing more details only for PGMs with a limited energy reservoir. More details for PGMs with a limited energy reservoir are described in the ENTSO-E document entitled "Supporting Document for the Network Code on Load-Frequency Control and Reserves" at following link : https://www.entsoe.eu/fileadmin/user_upload/_library/resources/LCFR/130628-NC_LFCR-Supporting_Document-Issue1.pdf		

41	156.13.b	Art. 156.13.b requires the recovery of the energy reservoir for FCR within 2 hours after the end of the alert state. Questions : ≠ emergency state? / = with active markets? / what without markets? / single event or several events? Details are missing.	SO GL covers the rules for normal and alert state. Market suspension is not foreseen for normal and alert state.	The interpretation of your answer is that “the end of the alert state” means entering again into the normal state and not into states described outside this code. At that moment, markets are operational. Is this interpretation correct? The original wording allows a different interpretation.	“After the end of the alert state” means “at normal state”, when markets are operational.		
42	157.2.a	Art. 157.2.a describes the dimensioning of FCR based on historical data. This should be based on a “lessons learned” approach. Cfr. Incident 4/11/2006.	Article 156 is about FRR dimensioning (not FCR). According to article 153.2 FCR per synchronous area shall cover at least the reference incident.	The question concerns Art. 157.2.a for FRR (and not for FCR as mentioned in the question). Are remedial actions such as those to prevent a similar incident as on 4 November 2006 taken into account together with the “consecutive historical records”?	The historical data of each incident used for this simulation are evaluated. Incidents can be classified as out of scope and not taken into account for the final simulation.		
43	157.2.j & k	Art. 157.2.j & k imposes sufficient FRR during 99% of the time. Meaning that during 86 hours per year, a blackout is realistic. Why not 99,9% instead of 99%?	It is not likely that the reduction of FRR capacity would cause a LFC block imbalance resulting in a blackout. Supporting document of LFCR part of SO GL provides comprehensive explanations on reserve dimensioning.	Answers accepted by VGB			
44	185.1 & 5	Art.185.1 & 5 impose to notify ENTSOE about modified frequency quality parameters. Is this according Art. 6 (approval process) and Art. 11 (public consultation).			Art.185.1 & 5 describes the modification of the frequency quality parameters. A modification process shall be executed according to Art. 6 (approval process) and Art. 11 (public consultation).		